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STATEWIDE CEREAL VARIETY TESTING PROGRAM

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Introduction

This article reports results from cereal variety trials conducted in the Columbia Basin during 1997. These trials were conducted as part of an Oregon statewide testing program initiated in 1992 to provide growers with local data on cereal variety performance. The statewide program is coordinated by Russ Karow, Oregon State University (OSU) Extension Cereals Specialist and Ernie Marx, Research Assistant, Department of Crop and Soil Science. Karen Morrow is the trial coordinator for the Columbia Basin sites. Seed is packaged in Corvallis and distributed to trial coordinators. Coordinators plant, manage, and harvest trials, in some instances in cooperation with growers. Information on trial locations, coordinators, and grower-cooperators is given in Table 1. The Corvallis research team processes harvested grain, analyzes results, and provides summary data to extension agents, seed dealers, agricultural field representatives, and growers across the state and region.

Winter and spring barleys, triticales, and wheats of several market classes were tested at eleven sites statewide, five in the Columbia Basin. When the program began in 1992, five Columbia Basin sites were selected to represent a range of growing conditions found in the region. Pendleton, Moro, and Heppner are dryland sites. The Pendleton site has the highest rainfall and relatively moderate temperature extremes. The Moro site represents the low-rainfall areas of the region. Heppner has shallow soils and a cool season. Irrigated trials are grown at Hermiston and La Grande. Hermiston is an early season site with sandy soils. La Grande is at a higher elevation with cold winters that sometimes cause crop damage, and it has a long, cool growing season.

This article reports data on yield for the Columbia Basin. More complete data, including test weights and protein, can be found on the Internet (**www.css.orst.edu/cereals/**) or in *Winter cereal varieties for 1998*, Special Report 775, Oregon State University Extension Service and *Spring grain varieties for 1998*, Crop Science Report 105R, Oregon State University Extension Service.

The statewide variety testing program is a grower-driven program. If you have ideas about varieties to be included in your area or have suggestions for program improvement, contact Russ Karow, OSU Extension Cereals Specialist (541-737-5857).

Materials and Methods

Dryland plots (5 ft × 20 ft) at Heppner, Pendleton, and Moro were seeded at 20 seeds/ft^2. Irrigated plots at LaGrande (5 ft × 20 ft), Hermiston (5 ft × 20 ft) were seeded at 30 seeds/ft^2. Seeding rates for dryland plots ranged from 46 to 114 lb/acre, depending on variety, to attain the desired 20 seeds/ft^2 as the seeding rate. Irrigated plot seeding rates ranged from 69 to 171 lb/acre. All trials were laid out as randomized complete block designs with three replications. Plots were seeded using small plot drills. Seeding, harvest, and production practices were typical for each location. Spring grain trials at Heppner were lost due to excessive lodging.

Harvested grain was cleaned with a Pelz rub-bar cleaner. Plot yield, test weight,

protein, and moisture were determined on cleaned grain samples. Yields are reported on a 10% moisture basis and in 60-lb bushels for wheats and triticales and in pounds per acre for barleys. Proteins are reported on a 12% moisture basis and were determined using a Tecator Infratec 1225 whole grain analyzer.

In addition to small-plot variety tests, large-scale winter wheat drill strip trials have been conducted across the state the last five years. Cooperating growers were provided with 50 to 80 lb. of seed of each variety to be tested. Seed for 1997 trials was donated by Eric and Marnie Anderson, Pendleton Grain Growers, and Corvallis Feed and Seed. Cooperators, often with assistance of local county agents, established single-replicate drill strip plots on their farms. These drill strips were managed and harvested by the cooperating grower with standard field equipment. Weigh wagons or weigh pads were used to obtain yield data. Two-quart grain samples were saved from some plots and used for test weight and protein analyses. Table 8 lists yield data for 1997 drill strips.

Results and Discussion

The tables at the end of this report contain yield information from 1997 trials as well as compilations of data from 1995-1997. Because year-to-year variability is often high, conclusions should not be made from a single year's data. Three-year averages are a better indication of how well a variety is suited for a location. For newer lines that have not been tested multiple years, the 1997 data may help identify lines to watch in the future.

Winter Trials

Winter wheat (soft white common) (Tables 2 and 3). Given the contrasting environments, we would expect different varieties to perform well at different sites. While this is sometimes the case, there are some varieties that seem to dominate across environments. Rod is a soft white winter wheat that has performed well throughout the Columbia Basin over the past three years. Gene does well at the warmer dryland sites (Pendleton and Moro) but not as well at Hermiston, Heppner, or La Grande. Madsen continues to perform strongly at Heppner and Pendleton. Stephens has average to above average yields across environments. Yield potential of these leading varieties is similar, so variety selection should be based on other criteria such as disease resistance, lodging potential, plant maturity, etc.

Of the new lines, ID8614502b (to be released as Brundage) had high yields at Moro and Heppner in 1997 but only average yields in 1996. Of the hybrid lines, Hybritech 1019 did well at Moro and Heppner. Otherwise, the hybrid lines performed near average in most trials.

Winter wheat (club) (Tables 2 and 3). Of the established varieties, three year data is available for Rely and Rohde at dryland sites. Rohde has slightly higher yields at Heppner and Moro, while Rely has the edge at Pendleton.

Among new lines, WA7752 performed very well at Pendleton for the second consecutive year. Hiller yielded well at all basin sites in 1997 and at the dryland sites in both 1996 and 1997. Hiller did not do as well at Hermiston and La Grande in 1996 when the trials suffered from extreme weather conditions. A concern with Hiller is that it sometimes has not graded as a club, and could therefore cause problems in handling and marketing. To address this concern, 1997 samples of Hiller, as well as other club and common varieties, were sent to FGIS for

grading. These samples were taken from irrigated and high-rainfall environments where grain morphology was most likely to be negatively affected. In all tests, Hiller samples graded as club. Based on this information, grading problems for Hiller may be the exception rather than the norm.

Winter barley (Tables 2 and 4). Strider and Kold have performed well at all sites in the Columbia Basin. Both varieties have barley stripe rust resistance. Scio has had above average yields at many sites, but tends to have lower test weights. Scio is also susceptible to scald and barley stripe rust. Steptoe has below average yields and is susceptible to barley stripe rust.

Spring Trials

Spring wheat (Tables 5 and 6). The spring wheat trials are interesting because of the many options that are emerging as spring cropping and marketing alternatives are explored. Among soft white wheats, Alpowa is widely adapted and was the highest yielding variety in three of four spring grain trials in 1997. However, some growers have complained about straw quality. In general, there was very little difference in yield among the leading soft white spring varieties over the past three years.

A number of hard white spring varieties are being developed, including IDO377S, OR4870453, and OR4895181. Of these lines, we have tested IDO377S over the greatest number of years, and it has yielded well throughout the Columbia Basin. Growers interested in growing IDO377S should contact Pro-Mar, an Idaho grower cooperative that holds an exclusive license to this variety. The two Oregon lines look promising, but more years of data are needed. All of the newer spring hard whites perform better than Klasic in the Columbia Basin.

For hard red spring wheats, WPB936 (Western Plant Breeders) is widely adapted. IDO462, scheduled to be released as 'Jefferson', has yielded well at Hermiston for two consecutive years. IDO462 is taller and later maturing than WPB936. Protein levels for IDO462 were similar to WPB936 in 1997 but were lower in 1996. Attaining adequate protein levels is important for successful marketing of hard red and hard white wheats.

Spring barley (Tables 5 and 7). Among spring barleys, Baronesse continues to be a top performer at all sites except La Grande where yields are average. Payette and Colter have done well at LaGrande, and Steptoe has yielded well at Moro and Pendleton. These varieties are susceptible to barley stripe rust, however. Some newer varieties such as Chinook (Montana, 2RM) and Orca (Oregon 2RF/M) may become important because of their ability to withstand stripe rust pressure. Galena, a 2-row malting variety from Coors, yielded well at a number of sites in 1997 and will be in the 1998 trials.

Seed Treatments

In 1996 and 1997, Vitavax/Thiram, Dividend/Apron, and Raxil/Thiram were compared on Stephens wheat. There are no clear differences in yields resulting from the different seed treatments. The similarities in yields could be due to similarities in effectiveness of the fungicides or a lack of disease pressure. Richard Smiley at the Columbia Basin Agricultural Research Center has conducted more detailed research on the differences between seed treatments.

Conclusions

While various varieties may excel in a given location in a given year, differences

between widely grown varieties are often negligible when data from multiple years is examined. When selecting a variety, growers should consider disease resistance, hardiness, or other factors pertinent to the site where the crop is grown. Before switching to a new variety, small acreages should be grown for comparison to old varieties, preferably for more than one year, before making shifts in large acreages.

References

Karow, R. and E. Marx. 1998. *Winter cereal varieties for 1998*. Special Report 775. Oregon State University Extension Service, Corvallis, OR.

Karow, R. and E. Marx. 1998. *Spring grain varieties for 1998*. Crop Science Report 105R. Oregon State University Extension Service, Corvallis, OR.

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Table 1. Oregon statewide cereal variety testing program trial locations, site coordinators, and grower-cooperators, 1997.

Trial name	Trial type	Trial location	Trial coordinator	Grower cooperator
Corvallis	all grains - dryland	Hyslop Farm	Russ Karow, Ernie Marx	
Morrow Co. (Heppner)	all grains - dryland	Anderson Farm	Karen Morrow	Charlie Anderson
Hermiston	all grains - irrigated	Hermiston Exp. Station	Karen Morrow	
Klamath Falls	all grains - irrigated	Klamath Exp. Station	Randy Dovel	
LaGrande	all grains - irrigated	Cuthbert Farm	Karen Morrow	John Cuthbert
Madras	all grains - irrigated	Central OR Exp. Station	Steve James, Mylen Bohle	
Medford	all grains - dryland	Southern OR Exp. Station	Rich Roseberg	
Moro	all grains - dryland	Sherman Exp. Station	Karen Morrow	
North Valley (Cornelius)	winter grains - dryland	Goetze Farm	Russ Karow, Ernie Marx	Norm Goetze
North Valley (Scio)	spring grains - dryland	Haugerud Farm	Russ Karow, Ernie Marx	Carl Haugerud
Ontario	all grains - irrigated	Malheur Exp. Station	Clint Shock, Eric Eldredge	
Pendleton	all grains - dryland	Pendleton Exp. Station	Karen Morrow	

Table 2. Oregon 1997 statewide variety testing program winter wheat and barley yield across five Columbia Basin locations, 1997.

Variety/line	Market class	Heppner	Hermiston	LaGrande	Moro	Pendleton	5-site average	5-site percent of average
Winter wheats				Yield (60 lb bu/a; 10% moisture)				
Gene	SW	49	96	103	81	61	85	94
Hiller	Club	60	103	135	93	79	103	113
Hybritech 1017	SW	53	91	121	63	74	87	96
Hybritech 1019	SW	63	92	125	91	74	96	105
Hybritech 1020	SW	58	90	133	66	77	91	101
ID14502B	SW	68	77	--	94	71	--	--
ID86-10420A	SW	46	75	--	65	73	--	--
MacVicar	SW	58	94	135	70	40	85	93
Madsen	SW	61	88	128	78	76	92	102
Madsen+Stephens	SW	58	86	116	82	70	89	97
Malcolm	SW	56	80	117	82	59	84	93
OR870012	SW	33	95	140	69	64	92	101
OR870082	SW	51	82	106	80	67	84	92
OR880172	SW	41	79	114	62	65	80	88
OR898120	SW	64	91	134	79	67	93	102
ORCL0049	Club	57	98	130	75	54	89	98
ORCL0054	Club	61	90	135	83	90	99	109
Rely	Club	58	95	127	81	79	96	105
Rod	SW	58	97	125	81	76	95	104
Rohde	Club	57	85	124	83	73	91	100
Stephens-Dividend	SW	62	83	120	87	64	89	97
Stephens-Raxil	SW	62	87	121	90	65	91	100
Stephens-Vitavax	SW	54	80	137	78	63	90	99
Stephens-Vit., no Gaucho	SW	58	86	126	71	62	86	95
W301	SW	55	86	122	75	68	88	96
WA7752	Club	74	93	136	81	94	101	111
WA7793	Club	65	93	134	87	79	98	108
Average		57	89	126	79	70	91	--
PLSD (5%)		11	12	19	11	16	--	--
PLSD (10%)		9	10	16	9	13	--	--
CV		12	8	9	9	14	--	--
P-value		0.00	0.00	0.02	0.00	0.00	--	--
Winter barleys				Yield (lb/a; 10% moisture)				
Gwen	6RF	4042	3763	7384	3742	3553	4610	95
Kold	6RF	4271	4052	7564	3683	4067	4842	100
ORW10	6RF	4345	3204	5894	3328	3895	4080	84
ORW11	6RF	5147	4165	8675	3619	4330	5197	107
Scio	6RF	4507	4980	8980	4232	3860	5513	114
Steptoe	6RF	2378	5227	4858	3976	3285	4337	89
Steptoe+Baytan	6RF	1998	5329	5278	4297	3709	4653	96
Strider	6RF	5003	5424	8470	4659	3717	5567	115
Average		3961	4518	7138	3942	3802	4850	--
PLSD (5%)		1094	662	1229	683	NS	--	--
PLSD (10%)		898	544	1009	561	NS	--	--
CV		16	8	10	10	10	--	--
P-value		0.00	0.00	0.00	0.02	0.12	--	--

Table 3. Oregon statewide variety testing program winter wheat yield data across five Columbia Basin locations, 1995-97.

Variety/line	Market class	Heppner	Hermiston*	LaGrande**	Moro	Pendleton	All sites average
1995				Yield (60 lb bu/a; 10% moisture)			
Gene	SW	50	--	96	56	93	81
MacVicar	SW	34	--	79	49	85	71
Madsen	SW	56	--	75	53	94	74
Malcolm	SW	53	--	105	57	80	81
Rely	Club	41	--	85	56	74	71
Rod	SW	48	--	88	58	76	74
Rohde	Club	47	--	84	54	70	69
Stephens	SW	47	--	77	56	96	76
W301	SW	49	--	89	55	88	87
1995 trial average (bu/a)		44	--	85	52	84	74
1996							
Gene	SW	37	86	11	76	86	65
MacVicar	SW	38	95	34	74	72	69
Madsen	SW	57	93	51	70	81	74
Malcolm	SW	33	93	39	67	66	66
Rely	Club	51	90	40	59	78	67
Rod	SW	57	108	63	79	89	85
Rohde	Club	55	94	19	67	71	63
Stephens	SW	46	100	36	76	75	72
W301	SW	42	91	38	69	75	68
1996 trial average (bu/a)		53	97	36	67	80	70
1997							
Gene	SW	49	96	103	81	61	85
MacVicar	SW	58	94	135	70	40	85
Madsen	SW	61	88	128	78	76	92
Malcolm	SW	56	80	117	82	59	84
Rely	Club	58	95	127	81	79	96
Rod	SW	58	97	125	81	76	95
Rohde	Club	57	85	124	83	73	91
Stephens	SW	54	80	137	78	63	90
W301	SW	55	86	122	75	68	88
1997 trial average (bu/a)		57	89	126	79	70	91
1995-1997 average							
Gene		45	91	70	71	80	78
MacVicar		43	94	83	64	66	77
Madsen		58	90	85	67	83	81
Malcolm		47	86	87	69	68	78
Rely		50	93	84	65	77	80
Rod		54	103	92	73	81	87
Rohde		53	90	76	68	71	76
Stephens		49	90	83	70	78	80
W301		48	88	83	66	77	79
Average yield (1995-97)		51	93	82	66	78	80
1995-1997 percent of trial average				(Yield, percent of trial average)			
Gene		88	98	85	107	102	98
MacVicar		85	102	101	97	84	96
Madsen		113	98	103	101	107	102
Malcolm		92	93	106	104	87	97
Rely		98	100	102	99	99	100
Rod		106	111	112	110	103	109
Rohde		104	97	92	103	91	96
Stephens		96	97	101	106	100	101
W301		94	95	101	100	99	98

*Hermiston had hail damage in 1996
**La Grande had frost damage in 1996

Table 4.--1995-97 state-wide variety testing program. Winter barley yield data across five Columbia Basin locations.

Variety	Market class	Heppner	Hermiston*	LaGrande**	Moro	Pendleton	All sites average
1995				Yield (lb/a; 10% moisture)			
Gwen	6RF	3373	--	4182	--	3463	2533
Kold	6RF	3470	--	5204	--	5416	3216
Scio	6RF	4226	--	3025	--	4531	2468
Steptoe	6RF	3132	--	5659	--	4104	3092
Strider	6RF/M	3868	--	5187	--	5331	3262
1995 trial average (lb/a)		3316	--	4667	--	3939	2765
1996							
Gwen	6RF	5125	1478	3386	2994	4185	3011
Kold	6RF	5470	5186	4153	4357	5940	4909
Scio	6RF	5180	4715	2599	4575	5131	4255
Steptoe	6RF	5226	3456	2080	3486	4492	3379
Strider	6RF/M	4928	4990	3272	3623	6252	4534
1996 trial average (lb/a)		5350	4088	2881	4186	5417	4143
1997							
Gwen	6RF	4042	3763	7384	3742	3553	4610
Kold	6RF	4271	4052	7564	3683	4067	4842
Scio	6RF	4507	4980	8980	4232	3860	5513
Steptoe	6RF	2378	5227	4858	3976	3285	4337
Strider	6RF/M	5003	5424	8470	4659	3717	5567
1997 trial average (lb/a)		3961	4518	7138	3942	3802	4850
1995-1997 average							
Gwen	6RF	4180	2620	4984	3368	3733	3676
Kold	6RF	4404	4619	5640	4020	5141	4855
Scio	6RF	4638	4848	4868	4404	4507	4657
Steptoe	6RF	3579	4342	4199	3731	3960	4058
Strider	6RF/M	4600	5207	5643	4141	5100	5023
Average yield (1995-97)		4209	4303	4895	4064	4386	4412
1995-1997 percent of trial average				(Yield, percent of trial average)			
Gwen	6RF	99	61	102	83	85	83
Kold	6RF	105	107	115	99	117	110
Scio	6RF	110	113	99	108	103	106
Steptoe	6RF	85	101	86	92	90	92
Strider	6RF/M	109	121	115	102	116	114

*Hermiston had hail damage in 1996

**La Grande had frost damage in 1996

Table 5. Oregon statewide variety testing program spring grain and barley yields across five Columbia Basin locations, 1997.

Variety/line	Market class	Heppner	Hermiston	LaGrande	Moro	Pendelton	4-site average	Percent of trial average
Spring wheats and triticales				Yield (60 lb bu/a; 10% moisture)				
Alpowa	SW	--	60	113	96	54	81	122
Alpowa no Gaucho	SW	--	55	102	87	47	73	109
Centennial	SW	--	53	106	73	46	69	104
IDO377S	HW	--	50	106	86	62	76	114
IDO462	HR	--	55	86	77	48	67	100
IDO488	SW	--	54	105	73	54	71	107
IDO492	HR	--	43	92	71	53	65	97
Klasic	HW	--	38	84	52	33	52	78
OR4870453	HW	--	57	94	76	49	69	104
OR4895181	HW	--	52	100	73	53	69	104
Penawawa	SW	--	49	86	79	63	69	104
Pomerelle	SW	--	54	102	80	58	74	111
Treasure	SW	--	43	101	85	52	70	105
Trical-2700	Triticale	--	36	95	70	66	67	100
WA 7802	HR	--	50	90	68	49	64	96
WPB936	HR	--	45	98	88	45	69	104
Wawawai	SW	--	47	94	72	49	65	98
Whitebird	SW	--	37	82	80	45	61	91
Yecora Rojo	HR	--	42	86	54	31	53	80
WPB881	Durum	--	28	74	57	31	47	71
Trial Average		--	47	95	75	49	67	--
PLSD (5%)		--	11	19	16	14	--	--
PLSD (10%)		--	9	16	14	12	--	--
CV		--	15	12	13	18	--	--
P-value		--	0.00	0.02	0.00	0.00	--	--

							5-site average	Percent of trial average
Spring barleys				Yield (lb/a; 10% moisture)				
78AB10274	2RM	1643	2618	6633	5242	3921	4602	105
Baronesse	2RF	3372	2985	5801	6496	4177	4864	111
Bear	6R hulless	1485	2489	4749	3381	2694	3328	76
Chinook	2RM	2133	2967	5400	5866	4208	4609	105
Colter	6RF	1571	1948	8572	5184	3919	4905	112
Crest	2RM	1597	2197	4836	5452	3861	4086	93
Gallatin	2RF	1759	2664	5360	4930	3338	4072	93
Orca	2RF/M	2827	2760	6637	3466	3707	4142	95
Payette	6RF	1486	2536	8620	4624	3358	4783	109
Russell	6RM	1508	1973	6740	3639	3488	3959	91
Steptoe+Baytan	6RF	1866	1608	6333	5536	4130	4401	101
Steptoe+Vitavax	6RF	2021	2042	6574	6044	4157	4704	108
UC960	2RF	1365	1863	7792	5770	3632	4763	109
Washford	6R awnless	1311	2170	4833	3571	3204	3444	79
C-22	2RM	--	2970	--	--	--	--	--
Galena	2RM	--	3800	--	--	--	--	--
Idagold	2RF	--	2992	--	--	--	--	--
Average		1853	2505	6349	4943	3700	4373	--
PLSD (5%)		688	844	1430	1188	887	--	--
PLSD (10%)		571	702	1187	986	736	--	--
CV		22	20	13	14	14	--	--
P-value		0.00	0.00	0.00	0.00	0.05	--	--

Table 6. Spring grain yields across five Columbia Basin locations, 1995-97.

Variety	Market class	Heppner	Hermiston	LaGrande	Moro	Pendleton	All sites average
1995				Yield (60 lb bu/a; 10% moisture)			
Alpowa	SW	40	--	62	50	67	60
Centennial	SW	38	--	58	52	54	55
IDO377S	HW	39	--	63	52	61	59
Klasic	HW	38	--	49	49	39	45
Penawawa	SW	34	--	59	49	58	55
Pomerelle	SW	34	--	47	59	64	57
Treasure	SW	31	--	57	51	68	59
Wawawai	SW	38	--	69	51	65	61
Yecora Rojo	HR	41	--	52	52	56	53
1995 trial average yield (bu/a)		35	--	55	51	56	54
1996							
Alpowa	SW	30	68	84	54	39	59
Centennial	SW	29	77	56	47	34	46
IDO377S	HW	33	81	75	48	41	55
Klasic	HW	22	74	23	47	43	38
Penawawa	SW	32	84	67	54	39	53
Pomerelle	SW	23	81	80	44	43	56
Treasure	SW	17	84	95	37	40	57
Wawawai	SW	22	80	61	50	43	51
Yecora Rojo	HR	31	73	24	50	38	37
1996 trial average yield (bu/a)		26	78	67	48	39	51
1997							
Alpowa	SW	--	60	113	96	54	88
Centennial	SW	--	53	106	73	46	75
IDO377S	HW	--	50	106	86	62	85
Klasic	HW	--	38	84	52	33	56
Penawawa	SW	--	49	86	79	63	76
Pomerelle	SW	--	54	102	80	58	80
Treasure	SW	--	43	101	85	52	79
Wawawai	SW	--	47	94	72	49	71
Yecora Rojo	HR	--	42	86	54	31	57
1997 trial average yield (bu/a)		--	47	95	75	49	73
1995-97 average							
Alpowa	SW	35	64	86	67	53	69
Centennial	SW	33	65	73	57	45	58
IDO377S	HW	36	65	81	62	55	66
Klasic	HW	30	56	52	49	38	46
Penawawa	SW	33	67	71	61	53	62
Pomerelle	SW	28	68	76	61	55	64
Treasure	SW	24	63	84	57	53	65
Wawawai	SW	30	64	74	58	52	61
Yecora Rojo	HR	36	57	54	52	41	49
Average yield 1995-1997 (bu/a)		31	63	73	58	48	59
1995-97 percent of trial average				(Yield, percent of trial average)			
Alpowa	SW	115	102	119	116	111	116
Centennial	SW	109	104	101	99	93	98
IDO377S	HW	118	104	112	107	114	111
Klasic	HW	98	90	72	85	80	78
Penawawa	SW	108	106	98	105	111	104
Pomerelle	SW	93	108	105	105	115	108
Treasure	SW	79	101	117	99	111	110
Wawawai	SW	97	101	102	100	108	103
Yecora Rojo	HR	117	92	75	89	86	83

Table 7. Spring barley yields across five Columbia Basin locations, 1995-97.

Variety	Market class	Hermiston	LaGrande	Moro	Heppner	Pendleton	All sites average
1995				Yield (lb/a; 10% moisture)			
Baronesse	2RF	--	4274	4198	2984	5079	4134
Colter	6RF	--	3730	3758	2542	5262	3823
Crest	2RM	--	3869	3631	2563	4593	3664
Payette	6RF	--	4439	3065	2315	3463	3321
Russell	6RM	--	3670	3204	2770	3707	3338
Steptoe	6RF	--	3468	3778	2682	5061	3747
1995 trial average yield (lb/a)		--	3722	3490	2607	4456	3569
1996							
Baronesse	2RF	5443	4028	3700	1976	3523	3734
Colter	6RF	3802	5190	4029	1277	2615	3383
Crest	2RM	4349	3167	3359	1380	3264	3104
Payette	6RF	3686	5435	3586	1407	2336	3290
Russell	6RM	3947	5440	3853	1983	2864	3618
Steptoe	6RF	4526	2774	3777	1661	3287	3205
1996 trial average yield (lb/a)		4251	4234	3512	1573	2839	3282
1997							
Baronesse	2RF	2985	5801	6496	3372	4177	4566
Colter	6RF	1948	8572	5184	1571	3919	4239
Crest	2RM	2197	4836	5452	1597	3861	3589
Payette	6RF	2536	8620	4624	1486	3358	4125
Russell	6RM	1973	6740	3639	1508	3488	3470
Steptoe	6RF	2042	6574	6044	2021	4157	4168
1997 trial average yield (lb/a)		2505	6349	4943	1853	3700	3870
1995-97 average							
Baronesse	2RF	4214	4701	4798	2777	4260	4150
Colter	6RF	2875	5831	4324	1797	3932	3752
Crest	2RM	3273	3957	4147	1847	3906	3426
Payette	6RF	3111	6165	3758	1736	3052	3564
Russell	6RM	2960	5283	3565	2087	3353	3450
Steptoe	6RF	3284	4272	4533	2121	4168	3676
Average yield 1995-1997 (lb/a)		3378	4768	3982	2011	3665	3561
1995-97 percent of trial average				(Yield, percent of trial average)			
Baronesse	2RF	125	99	121	138	116	117
Colter	6RF	85	122	109	89	107	105
Crest	2RM	97	83	104	92	107	96
Payette	6RF	92	129	94	86	83	100
Russell	6RM	88	111	90	104	91	97
Steptoe	6RF	97	90	114	105	114	103

Table 8. Grower drill strip winter wheat variety tests across Oregon and southeast Washington, 1997. Sites are listed in order of ascending average yield.

Variety	Rietmann Condon	Stonebrink Enterprise	Weimar Clem	Buether Kent	Starvation Farms Morrow	Macnab Moro	Nichols Dayton, WA	Miller Dufur	Klages Joseph	Hales Midway	Rudden-klau Amity	Average
					Yield (bu/a; as is grain moisture)							
Gene	48	55	61	59	61	60	90	80	80	90	103	73
MacVicar	41	72	57	64	59	73	81	71	74	86	105	71
Madsen	44	70	58	55	62	82	78	75	83	81	118	74
Rod	38	62*	62	66	69	82	93	95	87	99	108	80
Rohde	37	40*	53	59	53	--	75	83	97	83	84	69
Stephens	45	72	56	63	61	74	83	81	93	88	97	74
Crew/Hyak	--	--	--	--	--	--	--	89	--	--	--	--
Hiller	--	64	60	64	71	--	85	89	--	101	--	--
Hybritech 1017	--	--	--	--	--	--	--	80	--	90	122	--
Hybritech 1019	--	--	--	--	71	--	--	90	--	102	133	--
Hybritech 1020	--	69	--	--	--	--	--	--	--	--	114	--
Lewjain	--	70	--	--	--	--	--	--	--	--	--	--
Mac 1	--	--	--	--	60	--	--	--	--	79	--	--
Mixture**	--	--	--	--	--	--	--	--	106	--	--	--
Rely	--	--	--	62	--	--	--	89	--	--	--	--
Rod/MacVicar	--	--	--	--	--	75	93	--	--	--	--	--
Rod/Madsen	--	--	--	--	--	71	--	85	--	--	--	--
W301	--	68	--	--	--	--	--	--	--	91	--	--
WestBred	--	--	--	--	--	--	85	--	--	--	--	--
Average	42	54	51	62	63	74	83	84	89	90	103	75

*At Stonebrink's, Rod and Rohde plots were heavily infested with wild oats

**Klages mixture was equal amounts of Rod, Madsen, Stephens, and MacVicar